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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,911	11/13/2001	Toshihide Ibaraki	107292-00030	6650

32294 7590 07/17/2006

SQUIRE, SANDERS & DEMPSEY L.L.P.  
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8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER

JARRETT, RYAN A

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/986,911	<b>Applicant(s)</b> IBARAKI ET AL.	
	<b>Examiner</b> Ryan A. Jarrett	<b>Art Unit</b> 2125	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 22,24,58 and 70-97 are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Continuation of Disposition of Claims: Claims pending in the application are 6,7,11-15,17,19,20,22-25,27-40,42-46,58,59,61,62,64,65 and 67-97.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 6,7,11-15,17,19,20,23,25,27-40,42-46,59,61,62,64,65 and 67-69.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election of Invention IX (claims 22, 24, and 58) in the reply filed on 04/20/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 6, 7, 11-15, 17, 19, 20, 23, 25, 27-40, 42-46, 59, 61, 62, 64, 65 and 67-69 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/20/2006.

It is noted that Applicant incorrectly lists claims 22 and 58 as withdrawn on the amendment filed 04/20/2006. Applicant's amendment has necessitated a further restriction.

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 22, 24, 58, and 97 drawn to methods of minimizing the number of scanning or moving a working means or minimizing the number of moving a stage, classified in class 700, subclass 173.
  - II. Claim 70-71, 84-85 drawn to a method of determining an optimal working path for working positions in multiple work areas and determining an order of working at the work positions in each working area so that the total

working time is minimized in the working area to be simultaneously worked, classified in class 700, subclass 33.

- III. Claims 72-73, 80, 81, 86-87, 94, and 95 drawn to a method of solving a traveling salesman problem, classified in class 706, subclass 12.
- IV. Claims 74, 76, 88, and 90 drawn to a method of repeating steps to define a next working area by enclosing working positions, classified in class 700, subclass 28.
- V. Claim 75, 77-79, 82, 89, and 91-93 drawn to a methods of removing unnecessary working areas, a method of equalizing or matching the number of working positions belonging to each of a plurality of simultaneous working areas, and a method of centering working positions in a work area classified in class 700, subclass 171.
- VI. Claim 83, 96 drawn to a method of communicating a working plan, classified in class 700, subclass 96.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions I-VI are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, the subcombinations do not overlap in scope and are not obvious variants, and each subcombination has separate utility. For example, none of the groups besides Group I requires moving or scanning a working

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means or stage, i.e., these other groups are applicable to many other applications besides moving or scanning a working means or stage, such as in a method of optimizing material usage in a cutting operation. As further example, none of the groups besides Group III requires solving the traveling salesman problem, i.e., they can be solved or have to be solved using different methods. See MPEP § 806.05(d).

4. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

5. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103(a) of the other invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Conclusion***

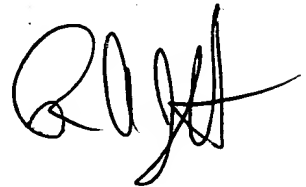
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan A. Jarrett whose telephone number is (571) 272-3742. The examiner can normally be reached on 10:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on (571) 272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ryan A. Jarrett  
Examiner  
Art Unit 2125

A handwritten signature in black ink, appearing to read 'Ryan A. Jarrett', is written over the printed name and title.

7/10/06